

CLAIMS

What is claimed is:

1. A method for high speed USB data routing, the method comprising:
5 routing a data stream to and from USB I/O ports serially; and
maintaining a frequency of the data stream during the routing.

10 2. The method of claim 1 further comprising providing a root port router for the root port and a data port router for each I/O port, wherein each data port router delays the data stream by one bit during the routing.

15 3. The method of claim 1 wherein routing a data stream further comprises routing on a two-bit wire, the two-bit wire carrying a data bit and a corresponding enable bit for each bit of the data stream.

20 4. The method of claim 1 wherein routing further comprises routing from a root port downstream to at least one I/O port and from one I/O port upstream to the root port.

5. The method of claim 1 further comprising performing the routing in a USB hub.

25 6. The method of claim 2 further comprising performing the routing with up to seven I/O ports.

7. The method of claim 1 wherein maintaining the frequency of the data stream during the routing further comprises maintaining the frequency at 480MHz.

8. A system for high speed USB data routing, the system comprising:

5 a plurality of USB I/O ports; and

a plurality of routers coupled to the plurality of USB I/O ports for routing a data stream to and from the USB I/O ports serially and maintaining a frequency of the data stream during the routing.

10 9. The system of claim 8 wherein the plurality of routers further comprise a root port router for the root port and a data port router for each I/O port, wherein each data port router delays the data stream by one bit during the routing.

15 10. The system of claim 8 wherein the plurality of routers route on a two-bit wire, the two-bit wire carrying a data bit and a corresponding enable bit for each bit of the data stream.

11. The system of claim 8 wherein the plurality of routers route from a root port downstream to at least one I/O port and from one I/O port upstream to the root port.

20 12. The system of claim 8 wherein the plurality of I/O ports and the plurality of routers further comprise a router portion of a USB hub.

13. The system of claim 9 wherein the plurality of I/O ports further comprise up to seven I/O ports.

14. The system of claim 8 wherein the frequency of the data stream further
5 comprises 480MHz.

15. A method for high speed USB data routing, the method comprising:

- providing a root port router for a root port of a USB hub;
- providing a data port router for each I/O port of the USB hub; and
- routing data of a data stream serially between the root port router and each data port router without altering a frequency of the data stream.

16. The method of claim 15 wherein routing data further comprises routing data downstream from the root port through the root port router and through each of the data port routers to at least one I/O port.

17. The method of claim 16 wherein routing data further comprises routing data upstream from one I/O port through each data port router and through the root port router to the root port.

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18. The method of claim 15 wherein each data port router and the root port router
delays the data stream by one bit during the routing.

19. The method of claim 5 wherein the frequency of the data stream further comprises 480MHz.

20. The method of claim 15 further comprising providing a data control block for the data port router and each I/O port to control enabling of each I/O port during the routing.